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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,760	10/30/2006	Heikki Paakkanen	27531U	7953
20529	7590	06/26/2008		
NATH & ASSOCIATES 112 South West Street Alexandria, VA 22314			EXAMINER LARKIN, DANIEL SEAN	
			ART UNIT 2856	PAPER NUMBER
			MAIL DATE 06/26/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/586,760

**Applicant(s)**

PAAKKANEN ET AL.

**Examiner**

DANIEL S. LARKIN

**Art Unit**

2856

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1, 4-11, 14-19, 21, and 22 is/are allowed.
- 6) ☒ Claim(s) 3, 12, 13 and 20 is/are rejected.
- 7) ☐ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF-08)
- Paper No(s)/Mail Date 25 August 2006
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Finland. It is noted, however, that neither the Applicants nor the International Office has not filed a certified copy of the Finnish application as required by 35 U.S.C. 119(b).

### *Drawings*

2. The drawings are objected to because of the following:

The drawings and the drawing numerals in each figure are too small to see clearly.

The listing of items and instructions on the drawing figures is inappropriate.

Reference box "1", as shown in Figure 1, should also be labeled

-- Chemical Detector --.

Reference box "3", as shown in Figure 1, should also be labeled -- Filter --.

Reference box "12", as shown in Figure 2, should also be labeled -- Pump --.

Reference box "13", as shown in Figure 2, should also be labeled

-- Heat Control--.

The three viewings of Figure 2 should each be labeled as a different figure, i.e. Figure 2a, 2b, 2c.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Reference numeral "10a" does not appear within the drawing figures as suggested by the disclosure on page 9, line 6.

Reference designation "Fig. 2c" does not appear within the drawing figures as suggested by the disclosure on page 9, line 17.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Reference numerals "8" and "11", as shown in Figure 2, do not appear within the written specification; and therefore, are not discussed.

5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings

for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the Applicants will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

6. The disclosure is objected to because of the following informalities:

Page 3, line 3: The abbreviations -- Pat. No. -- should be inserted prior to each patent numeral.

Page 7, line 2: The abbreviations -- Pat. No. -- should be inserted prior to the patent numeral.

Page 10, line 6: The numeral "3" should be corrected to read -- three --.

Page 10, line 8: The numeral "40" should be corrected to read -- forty--; and the abbreviation "sec" should be corrected to read -- seconds --.

Page 12, top of page: The phrase -- What is Claimed is: -- or -- What We Claim Is: -- should be inserted prior to the introduction of the claims. Appropriate correction is required.

### ***Claim Objections***

7. Claims 2 and 3 are objected to because of the following informalities:

NOTE: Applicants should consider deleting the reference numerals from the

claims because the reference numerals are not to be used to impart understanding and definiteness to the claims. The claim language itself should provide the necessary understanding. The examiner is not relying upon the reference numerals to determine the scope of the claimed subject matter.

Re claim 2, claim line 2: The term "it" should be replaced with the term -- gas chromatograph --.

Re claim 3, claim line 2: The term "wall" should be corrected to read -- walls --; and the term "has" should be corrected to read -- have --.

Re claim 16, claim line 3: The term -- directly -- should be inserted prior to the term "directing".

Re claim 16, claim line 4: The phrase "alternatively directly" should be deleted, and the term -- alternatively -- inserted after the conjunction "or".

Re claim 18, claim line 3: The acronym "IMS" should be placed within parentheses. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claim 21 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not

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described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification fails to provide an enabling description for use of a detector, such as electroacoustic sensor or sensor arrays, or a combination of any of the claimed sensors. The specification only describes that semiconductor gas sensors, temperature and humidity sensors may be combined with an ion mobility spectrometer to act as a detector for the gas chromatograph, page 4, lines 19-21. No where, however, does the specification expressly recite that a combination of sensors or sensor arrays may be used.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 3, 12, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 3, claim line 1: This claim is dependent upon itself.

Re claim 12, claim line 4: The phrase "said heating medium" lacks antecedent basis.

Re claim 13, claim line 5: The phrase "*the open space* between said capillaries" lacks antecedent basis.

***Allowable Subject Matter***

12. The following is a statement of reasons for the indication of allowable subject matter:

Prior art was not relied upon to reject claims 1-22 because the prior art fails to teach and/or make obvious a gas chromatograph having a column comprised of a bundle of open tubular capillaries having gas permeable wall comprising a polymer membrane; and temperature control means in combination with all of the remaining limitations of the claim.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

The prior art to US 6,270,674 (Baurmeister et al.) disclose a membrane module with hollow fiber membranes, comprising: a bundle of hollow fiber membranes with porous walls. The reference further discloses that the membranes may be made of organic polymers.

The prior art to US 4,547,289 (Okano et al.) disclose a filtration apparatus using hollow fiber membrane, comprising: a bundle of open tubular capillaries having gas permeable walls comprising a polymer membrane.

The prior art to US 5,139,668 (Pan et al.) disclose a hollow fiber bundle element, comprising gas permeable walls comprising a polymer membrane.



14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL S. LARKIN whose telephone number is (571)272-2198. The examiner can normally be reached on 8:30 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel S. Larkin/  
Primary Examiner, Art Unit 2856  
22 June 2008